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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,038	03/02/2004	Nobuhito Suehira	249566US2CONT	9746

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EXAMINER

THOMAS, LUCY M

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/790,038

Applicant(s)

SUEHIRA ET AL.

Examiner

Lucy Thomas

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,5,6,9 and 11-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3,5,6,9 and 11-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3, 5-6, 9, and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar et al. (US 5,880,924) in view of Puerto et al. (US 6,778,258) and Poli et al. (US 5,280,979). Regarding Claim 3, Kumar discloses a charge eliminating mechanism for a stage 20 for a work-to-be-processed 12 (Figure 4), comprising: a grounded wiring line having a first end and a second end, the second end being grounded (see grounded line Figure 4); and a mechanical switching mechanism (see 165 in Figure 4) arranged between the stage and the first end of the wiring line (Column 4, lines 26-32, Column 7, lines 37-57) wherein the mechanical switching mechanism (switch 165) of charge eliminating system comprises: a contact terminal including a contact terminal main body, a third end (adjacent electrode 85), and a fourth end (adjacent grounded line, see switch 165 and its parts in Figure 4, electrode 85, conductor element 140), the fourth end being electrically connected to the first end of the wiring line, and a contact state between the third end and the stage being physically turning on/off, and when the third end is in contact with the stage, the stage grounded through the third end of the contact terminal, the contact terminal main body, the fourth

end, the first end of the wiring line, and the second end of the wiring line (Column 3, lines 16-22, 32-37, Column 4, lines 60-67, Column 5, lines 7-15, Column 6, lines 29-58).

Kumar does not disclose a resistor and that at least one of the contact terminal and the stage includes an elastic contact mechanism to cause the third end of the contact terminal and the stage to come into elastic contact with each other.

Puerto discloses a stage 230 for wafer processing and contact terminals which include an elastic contact mechanism to cause the contact terminal and the stage to come into elastic contact with each other (see contact block 225, contacts 226, 227 and contact pads 228, 229 in Figure 2B, Column 6, lines 51-64). Poli discloses a charge eliminating mechanism (Figure 1), for a work-to-be processed, wherein a wiring line includes a resistor 4 between the first and second ends (see resistor in Figure 2A).

It would have been obvious to those skilled in art at the time the invention was made to modify Kumar's charge eliminating mechanism and to provide an elastic contact mechanism as taught by Puerto and a resistor as taught by Poli, because elastic contacts guarantee good electrical connection for testing and processing of wafers in semiconductor industries and resistor protect the circuits on the work-to-be processed from damage due to rapid discharge of electrostatic charge.

The switch 165 disclosed by Kumar is connected to the grounded wiring line and the stage such that the stage being physically turning on/off to discharge the residual charge (see Column 5, lines 7-15), and therefore the reference meets the limitations of the switch.

Regarding Claim 5, Puerto discloses the charge eliminating mechanism, wherein the stage 230 is rotatable in forward and reverse directions (see Figure 2B), and the elastic contact mechanism provided on the stage is a plate (provided with 228, 229) with spring properties formed on a side surface of the stage (Column 6, lines 58-60).

Regarding Claim 6, Puerto discloses that the elastic contact mechanism provided on the contact is a POGO pin (Column 6, lines 54-66).

Regarding Claim 9, Kumar discloses apparatus comprising a charge eliminating mechanism for a stage for a work-to-be-processed 12, which tests electrical characteristics of a work-to-be-processed (see Figure 4), the charge eliminating mechanism comprising: a grounded wiring line having a first end and a second end, the second end being grounded (see grounded line in Figure 4); and a mechanical switching mechanism (see 165 in Figure 4) arranged between the stage and the first end of the wiring line, wherein the mechanical switching mechanism comprises: a contact terminal having a contact terminal main body, a third end (adjacent electrode 85), and a fourth end (adjacent grounded line, see switch 165 and its parts in Figure 4, electrode 85, conductor element 140), the fourth end being electrically connected to the first end of the wiring line, and a contact state of the third end with respect to the stage being physically turned on/off, and when the third end is in contact with the stage, the stage is grounded through the third end of the contact terminal, the contact terminal main body, the fourth end, the first end of the wiring line, and the second end of the wiring line (Column 3, lines 16-22, 32-37, Column 4, lines 60-67, Column 5, lines 7-15, Column 6, lines 29-58).

Kumar does not disclose a resistor and that at least one of the contact terminal and the stage includes an elastic contact mechanism to cause the third end of the contact terminal and the stage to come into elastic contact with each other.

Puerto discloses a stage 230 for wafer processing and contact terminals which include an elastic contact mechanism to cause the contact terminal and the stage to come into elastic contact with each other (see contact block 225, contacts 226, 227 and contact pads 228, 229 in Figure 2B, Column 6, lines 51-64). Poli discloses a charge eliminating mechanism (Figure 1), for a work-to-be processed, wherein a wiring line includes a resistor 4 between the first and second ends (see resistor in Figure 2A).

It would have been obvious to those skilled in art at the time the invention was made to modify Kumar's charge eliminating mechanism and to provide an elastic contact mechanism as taught by Puerto and a resistor as taught by Poli, because elastic contacts guarantee good electrical connection for testing and processing of wafers in semiconductor industries and resistor protect the circuits on the work-to-be processed from damage due to rapid discharge of electrostatic charge.

The switch 165 disclosed by Kumar is connected to the grounded wiring line and the stage such that the stage being physically turning on/off to discharge the residual charge (see Column 5, lines 7-15), and therefore the reference meets the limitations of the switch.

Claims 11-12 recite elements of Claims 5-6 for the testing apparatus comprising the charge eliminating mechanism instead of a charge eliminating mechanism. Therefore, please see the rejection for Claims 5-6 above.

Regarding Claim 13, Kumar, Puerto, and Poli disclose a testing apparatus (Kumar, see apparatus in Figures 4, 7, Puerto, Figures 2A, 2B, Poli, Figure 2A, Abstract), comprising the charge eliminating mechanism, which tests electrical characteristics of a work-to-be-processed(Kumar, see 12, Puerto, see 207), and Poli discloses the wiring line includes a resistor 4 between the first and second ends (see resistor in Figure 2A).

Regarding Claim 14, Poli discloses the wiring line includes a resistor 4 between the first and second ends (see resistor in Figure 2A).

Response to Arguments

3. Applicant's arguments filed 7/19/2006 have been fully considered.

It is noted that Hirose reference is withdrawn from the rejection.

Regarding Applicant's arguments toward Kumar reference: The switch 165 taught by Kumar is a three way switch as the Applicant argues, which has a connection to the grounded line and the stage such that the stage being physically turning on/off to discharge the residual charge (see Column 5, lines 7-15, connection to the power supply is an additional feature of the system), and therefore meet the limitations of the switch recited in Claim 3 and 9.

The Poli is reference is relied upon to show the teaching of a resistor included in the line (connected to ground), and the motivation (to protect the circuits on the work-to-be processed from damage due to rapid discharge of electrostatic charge, see Poli Column 1, lines 38-53). The power supply connection is an additional feature of the system, and the modification is to provide a resistor in the grounded line.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucy Thomas whose telephone number is 571-272-6002. The examiner can normally be reached on Monday - Friday 8:00 AM - 4:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LT
September 26, 2006



BURTON S. MULLINS
PRIMARY EXAMINER